ABSTRACT OF THE DISCLOSURE

The invention intends to provide a sensor module suitable for miniaturization and reduction in costs, in the radar sensor that uses a millimeter or sub-millimeter wave signal of which frequency is more than 20GHz. To accomplish this problem, the radar sensor is integrated into a one chip MMIC, in which an active circuit including an oscillator and a mixer is formed with an antenna on one semiconductor substrate. Further, the MMIC is sealed with a resin package. A dielectric lens is formed on the resin package over the antenna to attain a desired beamwidth. Thereby, the lens and the resin package can integrally be formed by a metal mold, thus reducing the cost.